

CLAIMS

We claim:

1. An imaging device comprising:
 - an image generation and transfer system that generates an image from toner particles and transfers the image to a print media;
 - a fuser that fuses the image to the print media, the fuser including a fuser roller and a pressure roller in pressure engagement with the fuser roller where the print media passes in between;
 - a bias voltage applied to the fuser to reduce toner particles from being attracted to the fuser; and
 - a fuser sensor that measures the bias voltage across the fuser and generates a status signal indicating whether the print media is in the fuser based on the measured bias voltage.
2. The imaging device as set forth in claim 1 wherein the fuser sensor includes comparator logic that compares the measured bias voltage to the applied bias voltage and sets the status signal based on a difference therebetween.
3. The imaging device as set forth in claim 1 further includes a voltage circuit for generating and applying the bias voltage, the applied bias voltage being substantially a constant value.
4. The imaging device as set forth in claim 1 wherein the image generation and transfer system includes a photoconductive drum for forming a latent electrostatic image thereon, a toner transfer device for transferring toner to the photoconductive drum to form a toner image, and an image transfer device for transferring the toner image to the print media.
5. The imaging device as set forth in claim 1 wherein the fuser is an on-demand fuser.

6. The imaging device as set forth in claim 1 further including a controller for controlling the imaging device, and when a malfunction occurs with movement of the print media through the imaging device, the controller generating an error signal that indicates a location of the print media based in part on the location signal from the fuser sensor.

7. A method of determining a location of a print media within an electrophotographic imaging device where the print media is moved therethrough while an image is generated and transferred to the print media, the method comprising:

applying a bias voltage to a fuser to charge the fuser, the fuser bias voltage being affected by the print media contacting the fuser;

fusing the image to the print media with the fuser;

measuring the fuser bias voltage; and

determining whether the print media is in the fuser based on the measured fuser bias voltage.

8. The method as set forth in claim 7 wherein the applying includes applying the bias voltage at a substantially constant value.

9. The method as set forth in claim 7 wherein the determining includes generating a status signal that indicates the print media is in the fuser when the measured fuser bias voltage differs from the applied bias voltage.

10. The method as set forth in claim 9 wherein, if the print media jams within the imaging device, displaying an error message indicating a location of the print media based on the status signal.

11. The method as set forth in claim 7 wherein the determining includes comparing the measured fuser bias voltage to the applied bias voltage.

12. The method as set forth in claim 11 further including setting a threshold value and generating a status signal when a difference between the measured fuser bias voltage and the applied bias voltage is greater than the threshold value.

13. The method as set forth in claim 7 wherein the measuring includes detecting a change in the measured fuser bias voltage where the change indicates whether the print media is in the fuser.

14. The method as set forth in claim 7 wherein the measuring includes measuring the bias voltage across the fuser.

15. An image fusing system comprising:
a fuser including:
a fuser roller having a heating element; and
a pressure roller in pressure engagement with the fuser roller where a print media passes therebetween, the fuser and pressure rollers fusing an image onto the print media through heat and pressure;
a voltage circuit for applying a bias voltage to the fuser; and
a fuser sensor circuit for detecting the bias voltage of the fuser and indicating that the print media is within the fuser when the detected bias voltage changes.

16. The image fusing system as set forth in claim 15 wherein the fuser is an on-demand fuser.

17. The image fusing system as set forth in claim 15 wherein the fuser sensor circuit is connected to the voltage circuit and detects the bias voltage across the fuser.

18. The image fusing system as set forth in claim 15 wherein the fuser sensor circuit detects the bias voltage directly from the fuser.

19. The image fusing system as set forth in claim 15 further including a charging brush connected to the voltage circuit and being in contact with the fuser roller where the charging brush charges the fuser roller according to the bias voltage.

20. The image fusing system as set forth in claim 15 wherein the fuser sensor circuit includes a comparator logic that compares the measured bias voltage to the applied bias voltage and sets a status signal based on a difference therebetween.

21. The image fusing system as set forth in claim 15 wherein the fuser sensor circuit includes means for detecting a change of the bias voltage on the fuser.